# Course of Study Process Engineering (Study Cohort w23)

| Core Qualification Compulsory | Specialisation Compulsory | Focus Compulsory | Thesis Compulsory |
|---|---|---|---|
| Core Qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Interdisciplinary complement |

Sample course plan D  Master Process Engineering (VTMS) Dual study program

Specialisation Process Engineering

| LP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | **Particle Technology and Solid Matter Process Technology** | | | **Advanced Chemical Reaction Engineering** | | | **Process Design Project** | | | **Master thesis (dual study program)** |
| 2 | Advanced Particle Technology II | VL | 2 | Chemical Reaction Engineering | VL | 2 | Process Design Project | PK | 6 | |
| 3 | Advanced Particle Technology II | PBL | 1 | Chemical Reaction Engineering | HÜ | 2 | | | | |
| 4 | Experimental Course Particle Technology | PR | 3 | Experimental Course Chemical Engineering | PR | 2 | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | **Transport Processes** | | | **Bioprocess and Biosystems Engineering** | | | **Practical module 3 (dual study program, Master's degree)** | | | |
| 8 | Heat & Mass Transfer in Process Engineering | VL | 2 | Bioreactor Design and Operation | VL | 2 | Practical term 3 | | 0 | |
| 9 | Multiphase Flows | VL | 2 | Biosystems Engineering | VL | 2 | | | | |
| 10 | Reactor Design Using Local Transport Processes | PBL | 2 | Bioreactors and Biosystems Engineering | PBL | 1 | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | **Process and Plant Engineering II** | | | **Practical module 2 (dual study program, Master's degree)** | | | | | | |
| 14 | Process and Plant Engineering II | VL | 2 | Practical term 2 | | 0 | | | | |
| 15 | Process and Plant Engineering II | HÜ | 2 | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | **Separation Technologies for Life Sciences** | | | |
| 18 | | | | | | | Chromatographic Separation Processes | VL | 2 | |
| 19 | **Fluid Mechanics in Process Engineering** | | | | | | Unit Operations for Bio-Related Systems | VL | 2 | |
| 20 | Fluid Mechanics II | VL | 2 | | | | Unit Operations for Bio-Related Systems | PBL | 2 | |
| 21 | Applications of Fluid Mechanics in Process Engineering | HÜ | 2 | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | **Applied optimization in energy and process engineering** | | | **Process Modeling in Water Technology** | | | |
| 24 | | | | Applied optimization in energy and process engineering | IV | 2 | Process Modeling in Drinking Water Treatment | PBL | 2 | |
| 25 | **Practical module 1 (dual study program, Master's degree)** | | | Applied optimization in energy and process engineering | GÜ | 2 | Process Modelling of Wastewater Treatment | PBL | 2 | |
| 26 | Practical term 1 | | 0 | | | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | | | | **Process Simulation and Process Safety** | | | **Synthesis and Design of Industrial Processes** | | | |
| 30 | | | | CAPE with Computer Exercises | IV | 3 | Synthesis and Design of Industrial Facilities | VL | 1 | |
| 31 | | | | Methods of Process Safety and Dangerous Substances | VL | 2 | Industrial Plant Design and Economics | PBL | 3 | |
| 32 | | | | | | | | | | |
| 33 | | | | | | | | | | |
| 34 | | | | | | | | | | |
| 35 | | | | | | | **Research Project Process Engineering** | | | |
| 36 | | | | | | | Research Project in Process Engineering | PBL | 6 | |
| 37 | | | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | | | | | | | | | | |

Business & Management (from catalogue) - 6LP

Linking theory and practice (dual study program, Master's degree) (from catalogue) - 6LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.